

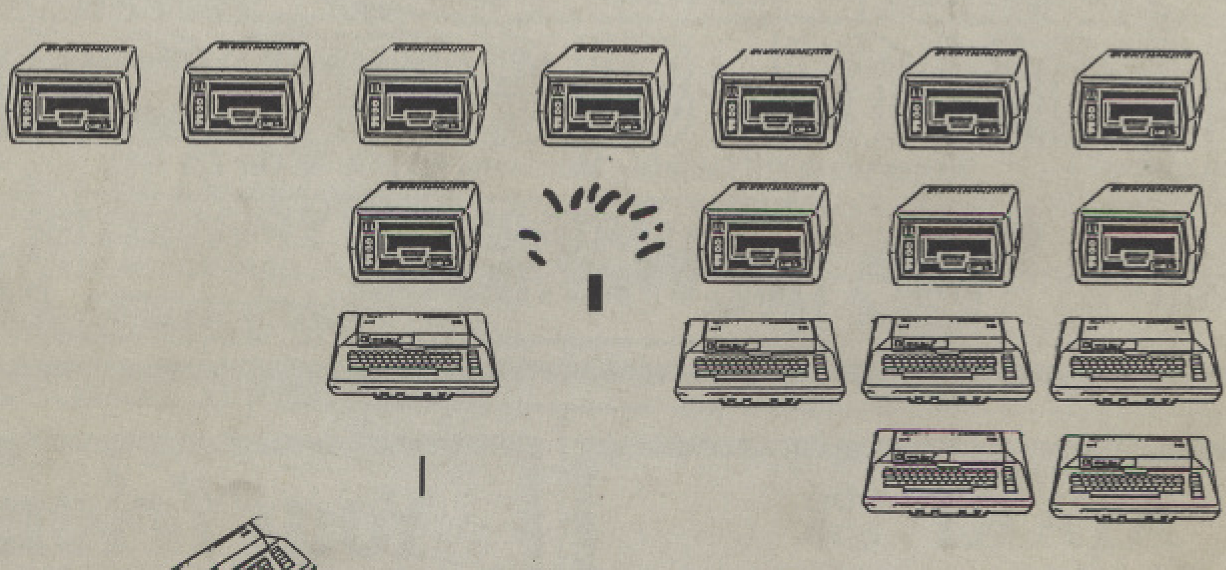


50p

An ATARI™ magazine

ISSUE ONE

DECEMBER/JANUARY 1982



INSIDE...

VULTURES!

New Graphics Modes

Latest Software

The U.K.'s first ATARI™ magazine

PAGE



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PAGE 6

Word processing by M.W.S. Ltd.

Printed by Birbeck & Sons Ltd.

Published by B.U.G.

Editor **Les Ellingham**

Editorial Offices **Tel. 0785 41153** (Evenings)

Thanks to.....Jeff Woodward, Graham Bennett, Mike Reynolds-Jones, David Harry, Phil Griffin, Geoff Brown, Mike Aston, Mike Woodroffe, Mike Dunn, Colin Boswell, Andrew Jones, Peter Franey, Howard Jones.....for their contributions or help. Apologies to anyone I may have missed.

Subscriptions to PAGE 6 are available from:

PAGE 6, 18, Underwood Close, Parkside, Stafford

1 year (6 issues) £3.75

Single copies 65p inc. p.& p.

Cheques etc. payable to B.U.G.

PAGE 6 is published bi-monthly

Editorial

A new Atari magazine!

Welcome to issue 1 of PAGE 6. The magazine has been put together by a group of Atari enthusiasts who came together as the Birmingham User Group, the largest independent Atari Computer Club in this country to hold regular meetings. I was appointed Newsletter Editor but quickly realised that we could produce a good quality magazine that could be enjoyed by Atari enthusiasts throughout the country. This first issue has involved a considerable effort by a small group of people and the Editor in particular to try and establish a magazine that Atari enthusiasts everywhere could be proud of. I hope we have succeeded - tell us what you think.

The future of the magazine is now in your hands - the content of the next issues needs to be supplied by YOU - the readers. Articles, programs, views, letters and all contributions are invited. We are not a profit-making organisation and therefore cannot normally pay for articles but by contributing you will benefit from an ever improving magazine which will help you get maximum enjoyment out of your Atari computer. With your help, PAGE 6 will become THE Atari magazine.

JUST A GAMES MACHINE?

One of the aims of PAGE 6 will be to tell people that the Atari 400 and 800 are home COMPUTERS. True they are excellent games machines - the best - but an image has grown up that that is all they are. Atari themselves seem to be happy with this situation so it is up to Atari enthusiasts to change the image. PAGE 6 will, through its pages, tell people what these machines can REALLY do. Games will have their place in the magazine of course, but we will also explore business and education and other subjects. Many people will buy Atari computers this Christmas and will then find that they have no-one to turn to when they want to learn computing. None of the general U.K. computing magazines are of much help and PAGE 6 will welcome new owners as well as old hands. If you believe in Atari, tell your friends and when they have bought their computer tell them about PAGE 6. Better still tell them about PAGE 6 first so that they can begin straight away to enjoy Atari computing.

PAGE 6 will be your magazine - if you want it. Write and tell me what you think of the first issue - do you really need an Atari magazine? If you do, take out a subscription or persuade your local dealer to stock PAGE 6. As our distribution grows the magazine will get bigger and better.

I would like to thank all those who contributed to this issue and in particular my wife who provided many hours of help (voluntarily!).

And finally...thanks to Clive Thomason without whose efforts B.U.G. would have not been founded and PAGE 6 would not have been born.

WHY 'PAGE 6'?

Old hands at Atari programming will already know the answer. We wanted a name for the magazine that you could easily remember, but more importantly one that would specifically indicate that the magazine was for Atari computers. For those who don't know, the memory inside your Atari is arranged in 'pages'. Each page holds 256 memory locations which contain the information necessary to make things work. Page 6 is a location from decimal address 1536 which is set aside as a protected memory area for the user. The most common use is for short machine language routines for use in your Basic program. If you don't know about page 6 yet, keep reading PAGE 6, you'll soon learn.

News

Atari slashes prices.....again! The 800 has had a massive £100 price cut bringing the R.R.P to £399.99 including Basic. Time to trade in?

Latest availability rumours..... are that early December will see the last shipment of 400's to retailers this year and supplies are short. Seems that somebody thought that we wouldn't be spending any money this Christmas!

A couple of books to look out for early next year are Compute's Book of Atari Graphics and Computer Animation Primer published by BYTE/McGraw - Hill Books. The Compute! book promises to be very interesting whilst Computer Animation Primer contains some excellent Atari material, particularly featuring GTIA. No news yet as to availability but we hope to review both books as soon as they are available in the U.K.

Atari will be bringing out a ROM Cartridge of Defender early next year which looks excellent. There are rumours however that an even better version has been written, but Atari has the rights!

Spinnaker is a new range of educational software that has been specially developed to help youngsters learn while having fun. It will be distributed here very shortly by Calisto Software Ltd.

PAGE 6 hopes to extend the idea of 'Public Domain' programs to this country. Certain authors in the States are happy to allow their programs to be published and used or amended by all. The only proviso is that you cannot sell them and should give due credit when they are used. Let us hope this splendid idea catches on - we look forward to hearing from all budding authors and programmers out there - share your ideas with other Atari Enthusiasts.

Scott Adams comes to U.K.

Adventure International (UK) Ltd., is to be set up in mid January by Mike Woodroffe of Calisto Computers Ltd. The company will be based in Birmingham and will have full facilities for manufacturing the entire range of Adventure International Software. The packaging will still be brought in from America but the tapes and disks will be manufactured here meaning that for the first time U.K. users will be able to buy software at a price compatible with the U.S price. Only VAT will need to be added to what should be a straight sterling - dollar equivalent.

In addition to manufacturing there will be an in-house software development team to develop and market 'home-grown' software. As well as developing their own software they will be offering facilities for users to submit programs for possible inclusion in their range with good royalties and the chance of full distribution both here and in the States. This will be the first major opportunity for UK written software to be distributed on a major scale in the U.S.A.

There will of course be full technical back-up for all Adventure International products and the latest programs should be available at the same time they are released in the States. The U.K. has up to now been slow to develop the software side of the business for the major home computers but this new venture should bring an enormous surge of interest.

Scott Adams himself will be coming to the U.K. shortly for a promotional tour and we look forward to welcoming one of the most well known 'names' in the computing world. PAGE 6 will be bringing you an interview if we can tie him down long enough!

SECRET CODE 16K

Les Ellingham

Secret Code is the classic Codebreaker or Mastermind type program.

The computer will choose a number using the digits 1 to 9 and your task is to work out the mystery number using your powers of deduction. You may choose the length of the number - 3,4 or 5 digits - and can play alone or with another player. With two players you will both be trying to guess the same number so don't give too much away! Enter your guess by choosing a series of numbers from the keyboard. If you make an error before the last number press the space bar twice to erase the line. Each time you enter your guess you will be given clues on whether your number is right. You will see a '1' for each number which is right and in the right place and a '0' for each number which is right but in the wrong place. If nothing is shown, none of your numbers are right. You have TEN guesses. If you run out the mystery number will be revealed. To go on to the next number press any key except SPACE. Press SPACE to start afresh.

```
1 REM ********************************
2 REM *                              *
3 REM *         SECRET CODE          *
4 REM *              by              *
6 REM *                              *
7 REM *         Les Ellingham        *
8 REM *                              *
9 REM ********************************
10 DIM PL$(12),Z$(15),S$(7),PT$(7),G$(5),AN$(5),W$(5),S(2)
15 OPEN #1,4,0,"K:"
20 REM *** TITLES ***
30 GRAPHICS 2+16:SETCOLOR 4,10,5:SETCOLOR 0,0,0
40 POSITION 4,5:? #6;"SECRET CODE":GOSUB 740
50 GRAPHICS 2+16:SETCOLOR 4,10,5:SETCOLOR 0,13,8:SETCOLOR 1,0,0
60 FOR X=20 TO 245
65 Y=Y+1:IF Y>10 THEN Y=0
70 POSITION INT(RND(0)*18)+1,INT(RND(0)*10)+1:? #6;INT(RND(0)*9)+1
75 IF Y=10 THEN SOUND 0,X,10,8
80 NEXT X:SOUND 0,0,0,0:GOSUB 730
90 FOR A=1 TO 6:POSITION 6,2+A:? #6;"  ":NEXT A
100 POSITION 7,4:? #6;CHR$(17);CHR$(21);CHR$(19);CHR$(23);CHR$(17)
110 GOSUB 750
120 POSITION 7,7:? #6;CHR$(25);CHR$(18);CHR$(18);CHR$(17);CHR$(22)
130 GOSUB 750:GOSUB 720
170 POSITION 7,7:? #6;CHR$(17):GOSUB 750
172 POSITION 8,7:? #6;CHR$(21):GOSUB 750
174 POSITION 9,7:? #6;CHR$(19):GOSUB 750
176 POSITION 10,7:? #6;CHR$(23):GOSUB 750
178 POSITION 11,7:? #6;CHR$(17):GOSUB 750
180 GOSUB 800:GOSUB 720
200 REM *** GAME OPTIONS ETC. ***
210 GRAPHICS 0:POKE 752,1:SETCOLOR 4,10,5:SETCOLOR 2,10,5
235 FOR A=1 TO 15:Z$(A)=" ":NEXT A
236 FOR A=1 TO 2:S(A)=0:NEXT A
240 ? "}":POSITION 7,5:? "HOW MANY NUMBERS"
245 POSITION 7,6:? "          (3,4 or 5)";:INPUT N:IF N<3 OR N>5 THEN GOTO 245
250 POSITION 7,8:? "HOW MANY PLAYERS"
255 POSITION 7,9:? "            (1 or 2)";:INPUT NP:IF NP<1 OR NP>2 THEN GOTO 255
260 POSITION 7,12:? "PLAYERS NAMES?"
265 FOR A=1 TO NP:POSITION 9,13+A:? A;".  ";:INPUT PL$:IF LEN(PL$)>7 THEN PL$=PL$(1,7)
270 IF LEN(PL$)=0 THEN PL$=" "
275 Z$(A*7-LEN(PL$)+1,A*7)=PL$:NEXT A
290 GOSUB 715
300 REM *** MAIN GAME ***
310 GRAPHICS 1+16:SETCOLOR 4,12,6
311 FOR G=1 TO N
313 G$(G,G)=STR$(INT(RND(0)*9)+1)
314 NEXT G
315 T=3:FOR A=1 TO 7:PT$(A)=" ":NEXT A
320 SETCOLOR 0,0,14:SETCOLOR 1,0,0
325 SETCOLOR 2,0,0
330 POSITION 2,0:FOR A=1 TO N:? #6;"?";:NEXT A
350 FOR PT=1 TO NP:S$=Z$(PT*7-6,PT*7)
360 FOR A=1 TO LEN(S$):IF ASC(S$(A))<>32 THEN PT$=S$(A,7):GOTO 370
365 NEXT A
370 POSITION 9,0:? #6;PT$;"      "
375 POSITION 2,T:? #6;CHR$(31)
380 GOSUB 500
385 T=T+2
387 IF T=23 THEN GOTO 900
390 POSITION 2,T:? #6;CHR$(31)
400 NEXT PT:GOTO 350
500 REM *** GUESS & COMPARE SUBROUTINE
510 FOR A=1 TO N
520 GET #1,K:IF K=32 THEN 210
522 IF K<>32 AND K<49 OR K>57 THEN 520
525 IF K=32 THEN POSITION A+1,T:? #6;"  ":GOTO 510
530 POSITION A+1,T:? #6;CHR$(K+128)
540 AN$(A,A)=STR$(K-48)
550 NEXT A
```

```
560 IF AN$=G$ THEN POSITION 9,T:FOR B=1
TO LEN(G$):? #6;CHR$(17);:NEXT B:GOTO 56
2
561 GOTO 570
562 POSITION 2,0:FOR A=1 TO LEN(G$):? #6
;CHR$(ASC(G$(A,A))-32);:NEXT A
563 S(PT)=S(PT)+1
565 GOSUB 800:GOTO 930
570 W$=G$
575 POSITION 9,T
580 FOR A=1 TO LEN(W$)
590 IF ASC(AN$(A,A))=ASC(W$(A,A)) THEN W
$(A,A)="V":AN$(A,A)="W":? #6;CHR$(177);
600 NEXT A
605 POSITION 14,T
610 FOR A=1 TO LEN(W$)
620 FOR B=1 TO LEN(W$)
630 IF ASC(AN$(A,A))=ASC(W$(B,B)) THEN A
N$(A,A)="X":W$(B,B)="Y":? #6;CHR$(79);:G
OTO 660
650 NEXT B
660 NEXT A
670 RETURN
700 REM *** TIME DELAYS ETC. ***
710 FOR A=1 TO D:NEXT A:RETURN
715 D=150:GOTO 710
720 D=200:GOTO 710
730 D=1000:GOTO 710
740 D=500:GOTO 710
750 FOR A=1 TO 20:SOUND 0,80,10,8:NEXT A
:SOUND 0,0,0,0:GOTO 720
760 FOR S=1 TO 150:SOUND 0,60,6,8:NEXT S
:SOUND 0,0,0,0:RETURN
800 REM *** CODE IS GUESSED! ***
810 FOR C=1 TO 10
820 SETCOLOR 1,0,12:SOUND 0,65,10,8
830 FOR D=1 TO 25:NEXT D
840 SETCOLOR 1,0,0:SOUND 0,0,0,0
850 FOR A=1 TO 5:NEXT A:NEXT C:RETURN
900 REM *** OUT OF GUESSES! ***
910 GOSUB 760
920 POSITION 2,0:? #6;G$
930 GET #1,J
950 REM *** SCORES ***
960 FOR A=3 TO 23 STEP 2:POSITION 2,A:?
#6;"                         ":NEXT A
965 POSITION 9,0:? #6;"              "
970 FOR SC=1 TO NP:S$=Z$(SC*7-6,SC*7)
975 FOR A=1 TO LEN(S$):IF ASC(S$(A))<>32
 THEN PT$=S$(A,7):GOTO 980
977 NEXT A
980 POSITION 9,SC-1:? #6;PT$:POSITION 18
,SC-1:? #6;S(SC)
985 NEXT SC
990 GOSUB 730:POKE 764,255:GOTO 300
```

CARTOONS by

Alan Oliver

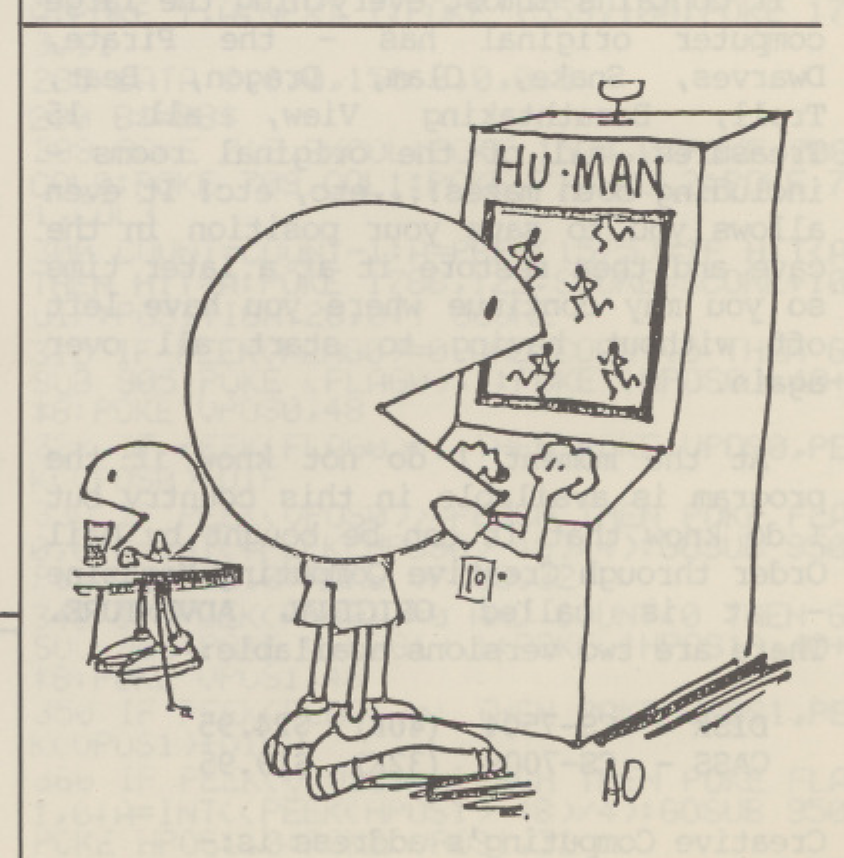
Line Lister

How many times have you checked and re-checked that magazine listing you have just typed in only to find that you go cross-eyed looking at a whole screen of data or wear your fingers out typing ..LIST 10..LIST 20..etc! Well here's a handy little Utility which won't find your bug but will make it a lot easier to read the screen.

```
32500 POKE 764,255:LINE=0
32510 IF PEEK (764) <> 255 THEN
LIST LINE: LINE=LINE+1:GOTO 32530
32520 GOTO 32510
32530 IF PEEK (764)=28 THEN INPUT
LINCR: LINE=LINCR-1
32540 POKE 764,255:GOTO 32510
```

Type it in, save it by using LIST "C:" and then merge it with your newly typed program by using ENTER "C:". Type (in direct mode) GOTO 32500 and then keep hitting any key and watch the lines scroll up the screen. If your program starts at a high line number or jumps to a much higher line number press ESC and type in the first, or next line number.

If you want to change a line in the program, press BREAK and use the editing facility to amend the line. Type CONT to continue.



Adventure....America

Jeff Woodward

Several years ago, three programmers in America developed the first Adventure type game on an American Government IBM Computer. Two of these guys were Willie Crothers and Don Woods. This Adventure was the Colossal Cave which soon spread (like wildfire!) to almost every large computer system in the world. Everyone was playing it. Then along came micro-computers and several people started developing Adventures for them. Perhaps the most famous is Scott Adams of Adventure International.

The original Colossal Cave Adventure was soon put on the TRS-80, Apple etc. but never made it to the Atari. Recently a programmer in the States - Robert A. Howell - has just fitted the original Adventure into a 32K tape or a 40K disk for Atari. He says it was a lot of work 'shoe-horning' it into 32K but it was worth it as now any Atari owner with 32K memory (no disk needed!) can play the classic Original Adventure.

It contains almost everything the large computer original has - the Pirate, Dwarves, Snake, Clam, Dragon, Bear, Troll, Breathtaking View, all 15 Treasures, all of the original rooms - including both mazes!...etc, etc! It even allows you to save your position in the cave and then restore it at a later time so you may continue where you have left off without having to start all over again.

At the moment I do not know if the program is available in this country but I do know that it can be bought by Mail Order through Creative Computing Magazine - it is called **ORIGINAL ADVENTURE.** There are two versions available:-

DISK - CS-7504 (40K) $24.95
CASS - CS-7009 (32K) $19.95

Creative Computing's address is:-

Creative Computing Software,
P.O.Box 789-M,
Morristown, N.J. 07950
U.S.A.

You can expect to pay shipping costs of about $5 on these prices. If you send an International Money Order or quote your VISA or MASTERCARD (ACCESS) number this will be taken care of.

Good luck on your Adventuring.

Letters to America

When I first brought my Atari 400, now 16 months ago, there was very little in terms of books and software available so I set about to find some! I found a few User Club addresses from the back of The Atari Connection magazine (which is supposed to be available from Atari!) and wrote off with fingers crossed. The response I have had from our American friends is, to say the least, nothing short of fantastic. There seems to be nothing that is too much trouble for them and without exception all have offered to send me programs. I have also written to the American magazines - Compute!, Analog, Mace etc. and again have always received replies and offers of help on any subject.

I think any Atari enthusiast in this country taking the time to sit and write off to American Atari Users will be pleasantly surprised at the reaction.

Start writing NOW!

VULTURES III 16K

Stan Ockers

We are proud to bring you another fine program from the prolific keyboard of Stan Ockers. This program first appeared in ACE Newsletter published by Atari Computer Enthusiasts of Eugene Oregon and our thanks go to them and Stan Ockers for allowing us to use it.

The display list has been amended so that most of the screen is in Antic Mode 4, a mode which does not seem to have been explored much here in Britian. The character set is however standard. The sound routines have been put in the VBI so that Basic can get on with the program without having to cope with the update of sound registers. It runs much faster this way.

```
0 REM ************************
1 REM *                      *
2 REM *     VULTURES III     *
3 REM *          by          *
4 REM *     STAN OCKERS      *
5 REM *  FIRST PUBLISHED IN  *
6 REM *    ACE NEWSLETTER    *
7 REM *        EUGENE        *
8 REM *        OREGON        *
9 REM *                      *
10 REM ************************
90 GRAPHICS 18:POSITION 5,3:? #6;"vultur
es":POSITION 8,5:? #6;"III"
100 PMHI=1547:IMAGE0=1552:IMAGE1=1553:IM
AGE2=1554:IMAGE3=1555:HPOS3=1559:VPOS3=1
567
110 FLAG0=1568:FLAG1=1569:FLAG2=1570
112 COL0=52:COL1=24:COL2=32:COL3=244:BKC
OL=144
120 VPOS0=1564:VPOS1=1565:VPOS2=1566:IMG
PT=1584
130 HPOS0=1556:HPOS1=1557:HPOS2=1558:RAM
TOP=106:PMBASE=54279:SDMCTL=559:GRACTL=5
3277
140 PCOLR0=704:PCOLR1=705:PCOLR2=706:PCO
LR3=707:POKE 1577,10
150 DIM B$(20),BB$(20),V$(2):V$(1)=CHR$(
136):V$(2)=CHR$(138):BB$(1)=CHR$(0):BB$(
20)=CHR$(0):BB$(2)=BB$
151 DIM CL$(38):CL$(1)=" ":CL$(38)=" ":C
L$(2)=CL$
152 DIM X$(38),X1$(38):X$(1)="X":X$(38)=
"X":X$(2)=X$:X1$(1)="x":X1$(38)="x":X1$(
2)=X1$
153 DIM LTNG$(46):RESTORE 154:FOR I=1 TO
 46:READ A:LTNG$(I,I)=CHR$(A):NEXT I
154 DATA 124,29,41,29,30,124,29,30,30,40
,29,30,30,40,29,30,124,29,40,29,124,29,4
1,29,41,29,41,29,30,124,29
155 DATA 30,30,41,29,30,30,41,29,30,30,4
1,29,30,30,124
156 DIM ERAS$(46):RESTORE 157:FOR I=1 TO
 46:READ A:ERAS$(I,I)=CHR$(A):NEXT I
157 DATA 32,29,32,29,30,32,29,30,30,32,2
9,30,30,32,29,30,32,29,32,29,32,29,32,29
,32,29,32,29,30,32,29
158 DATA 30,30,32,29,30,30,32,29,30,30,3
2,29,30,30,32
160 COUNT=20:PERCH=180:BIRDS=0:DIF=3:POK
E 1555,8
200 GOSUB 6000:GOSUB 2000:POKE 764,255:?
 CHR$(28);"PRESS START TO BEGIN":? "ANY
KEY TO PAUSE"
202 ? "Beware the golden vultures!!!":GO
SUB 1000
210 A=PEEK(RAMTOP)-16:POKE PMBASE,A:POKE
 PMHI,A:SOUND 0,0,0,0:A=USR(1536):GRAPHI
CS 0:GOSUB 5000
220 POKE SDMCTL,62:POKE GRACTL,3:POKE 76
4,255
230 COUNT=20:PERCH=180:BIRDS=0:DIF=3:POK
E 1555,8:GOLD=500:SCORE=0
255 SHIELD=20:FOR J=SHIELD TO 23:POSITIO
N 1,J:? X$;:NEXT J:POSITION 0,0:? "dif
score   high"
260 POKE PCOLR0,243:POKE PCOLR1,243:POKE
 PCOLR2,243:POKE PCOLR3,40
270 POKE 752,1:FOR I=2 TO 36 STEP 2:POSI
TION I,1:? V$:NEXT I:BLEFT=18:BLAND=0:PO
KE 1575,0:HIT=0
275 POSITION 1,SHIELD-1:? CL$
277 POSITION 22,0:? DIF:POSITION 26,0:?
SCORE:POSITION 34,0:? HIGH
280 RESTORE 285:FOR I=1564 TO 1571:READ
A:POKE I,A:NEXT I:POKE 1559,100:POKE 178
3,11
285 DATA 0,0,0,150,0,0,0,0
290 B$=BB$
299 POKE 712,BKCOL:POKE 1574,0:POKE 708,
COL0:POKE 709,COL1:POKE 710,COL2:POKE 71
1,COL3
300 COUNT=COUNT-1:A=PEEK(1575):IF HIT<A
THEN HIT=A:POKE 1788,129:SCORE=SCORE+10*
DIF:POSITION 26,0:? SCORE
310 IF PEEK(FLAG0)=0 AND COUNT<0 THEN GO
SUB 905:POKE (FLAG0),1:POKE (HPOS0),40+R
*8:POKE VPOS0,48
320 IF PEEK(FLAG0)=1 THEN POKE VPOS0,PEE
K(VPOS0)+DIF
330 IF PEEK(VPOS0)>=PERCH THEN POKE FLAG
0,0:A=INT((PEEK(HPOS0)-48)/4):GOSUB 950:
POKE HPOS0,0:POKE VPOS0,32
340 IF PEEK(FLAG1)=0 AND COUNT<0 THEN GO
SUB 905:POKE (FLAG1),1:POKE (HPOS1),40+R
*8:POKE VPOS1,48
350 IF PEEK(FLAG1)=1 THEN POKE VPOS1,PEE
K(VPOS1)+DIF
360 IF PEEK(VPOS1)>=PERCH THEN POKE FLAG
1,0:A=INT((PEEK(HPOS1)-48)/4):GOSUB 950:
POKE HPOS1,0:POKE VPOS1,32
```

over...

```
370 IF PEEK(FLAG2)=0 AND COUNT<0 THEN GO
SUB 905:POKE (FLAG2),1:POKE (HPOS2),40+R
*8:POKE VPOS2,48
380 IF PEEK(FLAG2)=1 THEN POKE VPOS2,PEE
K(VPOS2)+DIF
390 IF PEEK(VPOS2)>=PERCH THEN POKE FLAG
2,0:A=INT((PEEK(HPOS2)-48)/4):GOSUB 950:
POKE HPOS2,0:POKE VPOS2,32
392 IF BLAND>2 THEN 500
394 IF BLEFT<1 THEN 600
400 FLASH=FLASH-1:IF FLASH<0 THEN GOTO 5
50
405 IF PEEK(1574)>0 THEN GOTO 650
410 GOLD=GOLD-1:IF GOLD<0 AND BLAND>3 TH
EN GOLD=100*(9-DIF):DIF=DIF+2:XCNT=30:PO
KE 704,44:POKE 705,44:POKE 706,44
420 IF XCNT>0 THEN XCNT=XCNT-1:IF XCNT=0
 THEN DIF=DIF-2:POKE 704,243:POKE 705,24
3:POKE 706,243:POSITION 22,0:? DIF
425 IF PEEK(764)<255 THEN GOSUB 1000
430 GOTO 300
499 REM ** REMOVE A SHIELD **
500 POKE 1789,207:SVCOL=COL1:FOR I=1 TO
6:POKE 708,PEEK(708)+2:POSITION 1,SHIELD
:? X1$:FOR J=1 TO 5:NEXT J
502 POSITION 1,SHIELD:? X$:FOR J=1 TO 5:
NEXT J:NEXT I:POSITION 1,SHIELD-1:? CL$:
POSITION 1,SHIELD:? CL$
508 SHIELD=SHIELD+1:PERCH=PERCH+8:IF SHI
ELD=23 THEN 700
510 DIF=DIF-1:IF DIF<2 THEN DIF=2
520 GOTO 270
550 POKE 1789,171:POKE 712,40:X=RND(0)*2
3+8:POSITION X,2:? LTNG$;:POKE 712,15:PO
SITION X,2:? ERAS$;:POKE 712,BKCOL
555 A=9-DIF:FLASH=RND(0)*30*A+10*A
560 GOTO 405
599 REM ** REMAINING BIRDS LEAVE **
600 DIF=DIF+1:IF DIF>6 THEN DIF=6
612 FOR I=1 TO 150
614 P=PEEK(VPOS0):IF P>0 THEN POKE VPOS0
,P-1
616 P=PEEK(VPOS1):IF P>0 THEN POKE VPOS1
,P-1
618 P=PEEK(VPOS2):IF P>0 THEN POKE VPOS2
,P-1
620 NEXT I:POKE 77,0:GOTO 270
649 REM ** HIT BY LIGHTNING **
650 POKE HPOS3,0:POKE 53278,0:POKE 1789,
189:POKE 707,BKCOL
655 FOR I=8 TO 48 STEP 4:POKE 712,I:FOR
J=1 TO 30:NEXT J:NEXT I:POKE 712,BKCOL
660 FOR I=1 TO 200:NEXT I:POKE 1788,79:F
OR J=1 TO DIF
665 SCORE=SCORE-100:IF SCORE<0 THEN SCOR
E=0
670 POSITION 26,0:? SCORE;"   ":FOR L=1
TO 100:NEXT L:NEXT J
680 POKE 707,40:GOTO 270
700 IF SCORE>HIGH THEN HIGH=SCORE
705 POKE GRACTL,0:FOR I=53261 TO 53264:P
OKE I,0:NEXT I
710 GRAPHICS 18:POSITION 5,3:? #6;"final
 score "
720 POSITION 8,5:? #6;SCORE
730 POSITION 5,8:? #6;"PRESS START":POSI
TION 4,9:? #6;"TO PLAY AGAIN"
740 IF PEEK(53279)<>6 THEN 740
750 GRAPHICS 0:GOSUB 5000:GOTO 220
900 REM ** START ANOTHER BIRD **
905 COUNT=INT(RND(0)*30)
910 R=INT(RND(0)*18)+2:IF ASC(B$(R))>0 T
HEN 910
920 B$(R,R)=CHR$(1):POSITION 2*(R-1),1:?
 " ":BLEFT=BLEFT-1:RETURN
945 REM ** BIRD AT SHIELD **
950 POSITION A,(PERCH-32)/8:? V$;:POKE 1
788,150:BLAND=BLAND+1:RETURN
999 REM ** PAUSE ROUTINE **
1000 POKE 764,255
1010 IF PEEK(53279)<>6 THEN 1010
1020 RETURN
1999 REM ** VBI ROUTINE **
2000 RESTORE 2001:DIM VB$(348):FOR I=1 T
O 348:READ A:VB$(I,I)=CHR$(A):NEXT I
2001 DATA 72,138,72,152,72
2002 DATA 206,40,6,173,40,6,16,29,173,41
,6,141,40,6,162,2,254,16,6,254,16,6,189,
16,6,201,8,144,5,169,0,157,16,6
2004 DATA 202,16,235
2005 DATA 174,120,2,224,11,208,3,142,247
,6,224,7,208,3,142,247,6
2006 DATA 174,247,6,173,23,6,201,200,176
,10,224,7,208,6,238,23,6,238,23,6,201,48
,144,10,224,11,208,6
2008 DATA 206,23,6,206,23,6
2010 DATA 24,173,11,6,105,4,133,204,162,
0,134,207,160,0,132,203,189,20,6,157,0,2
08,189,12,6,221,16,6,208,8,189,28
2020 DATA 6,221,24,6,240,69,189,16,6,157
,12,6,189,28,6,157,24,6,165,203,221,28,6
,240,10,169,0,145,203,230,203,240
2030 DATA 42,208,239,189,16,6,170,189,48
,6,133,205,189,49,6,133,206,177,205,240,
14,145,203,230,205,208,2
2040 DATA 230,206,230,203,240,10,208,238
,169,0,145,203,230,203,208,250,230,204,1
66,207,232,134,207,224,4,144,154
2042 DATA 173,15,208,240,34,106,144,2,16
2,0,106,144,2,162,1,106,144,2,162,2,169,
0,157,28,6,157,32,6
2044 DATA 141,30,208,238,39,6,169,2,141,
132,6
2046 DATA 173,7,208,240,3,141,38,6
2050 DATA 174,252,6,240,36,206,248,6,16,
31,189,0,6,141,0,210,232,189,0,6,141,1,2
10
2052 DATA 232,189,0,6,240,9,141,248,6,23
2,142,252,6,208,3,141,252,6
2054 DATA 174,253,6,240,36,206,249,6,16,
31,189,0,6,141,2,210,232,189,0,6,141,3,2
10
2056 DATA 232,189,0,6,240,9,141,249,6,23
2,142,253,6,208,3,141,253,6
2080 DATA 104,168,104,170,104,76,98,228
2090 GOSUB 3010:GOSUB 4100:RETURN
3000 REM * PAGE 6 - INSERT VBI ROUTINE *
3010 RESTORE 3020:FOR I=1536 TO 1545:REA
D A:POKE I,A:NEXT I
3020 DATA 104,160,0,162,0,169,7,76,92,22
8
3030 A=ADR(VB$):B=INT(A/256):C=A-256*B:P
OKE 1538,C:POKE 1540,B:RETURN
```

............GOTO 13

More Graphics Modes...

Colin Boswell

Graham Daubney of Atari recently mentioned at a BUG meeting that he had discovered, quite accidently, some totally new Graphics modes. Intrigued by this, I went home and started messing around myself.

After much peeking and pokeing, I think I may have some answers. The register of interest is the graphics priority register at 53275 which is shadowed at GPRIOR, 623 decimal. This is used in setting the priority for Player - Missiles and the like. But the important part is that the GTIA chip uses the 2 most significant bits - 6 and 7 - to determine how it is to output the information.

Using some inspired guesswork, this is what I think may be happening. When GTIA gets a byte of Data, it first looks at the Priority register. If the 2 most significant bits are not set, then it outputs the data as normal for the mode in question i.e BASIC modes 0-8. But if either of the 2 bits are set then it splits the byte into 2 4-bit nibbles, which gives it 2 numbers between 1 and 16. It then outputs 2 pixels as shown in figure 1.

```
5 GRAPHICS 0
10 GPRIOR=623
20 OPEN #2,4,0,"K:"
30 FOR X=1 TO 38:FOR Y=1 TO 22
40 POSITION X,Y:? "X"
50 NEXT Y:NEXT X
60 FOR X=13 TO 26:FOR Y=8 TO 16
70 POSITION X,Y:? "O"
80 NEXT Y:NEXT X
90 FOR BIT=0 TO 192 STEP 64
100 POKE GPRIOR,BIT
110 GET #2,A
120 NEXT BIT
130 GOTO 90
```

Figure 1

Priority Register Bit 7	6	
0	1	Output color 4 at a luminesence given by (n)
1	0	Output the color stored in color register (n) which can be any color register or the Player-Missile color registers
1	1	Output the color whose number is (n) and whose luminesence is stored in color register 4

This is essentially what happens in Graphics modes 9-11. The operating system simply creates a Graphics 8 display list and then sets the bit in PRIOR. But what nobody seems to have thought of before is that this can be done for any mode, not just GR.8

The only mode I've tried it in so far is GR.0, but believe me - it's quite amazing! What happens is that instead of each character producing a letter, it produces two pixels in colour. Potentially this means that all the programs you had to produce in GR.2 to get colour can now be expanded to a full 40 x 25 display in up to 16 colours giving a resolution equal to GR. 9-11.

I've included a quick demo in listing 1, which puts up a simple display and steps through the different priority settings. Somebody out there can do better than this. All I have done is some ground work, so get out your Atari and start writing some programs! Try some of the other Graphics modes too, I have only tried GR.0.

WHATS NEW?

Geoff Brown

I've been asked to write a regular column for PAGE 6 outlining some of the new products which are imminent and others which are as yet only on the horizon. As you are aware, the ATARI has an enormous number of games, utilities etc. available and these are increasing at a phenomenal rate. Hardly a week goes by without a new company launching a new product. Some of the new items are discarded as not being up to the required standard and others are considered to be unsuitable for the British market or too expensive etc.

So what's likely to be available in the near future? Let's begin by looking at some of the new games. **SNOOPER TROOPS 1** is a children to adult adventure with full graphics and animation. It uses the whole 48K Disk to its limit and is well presented in a beautiful binder with comprehensive program notes. You have to find the Granite Ghost by touring around the town in the 'SNOOPMOBILE' taking 'SNOOPSHOTS' with your camera. You then collate all the information and have to solve the mystery. Fantastic fun for all the family. **WAYOUT** finds you trapped in a 3-D Maze! You can run up and down corridors until you get vertigo. So realistic, you really feel you are there. Chased by animals who hunt in the Maze - a most realistic simulation. Plenty of action, sound and graphics, it comes on 32K disk. **PLATTERMANIA** is a new ROM cartridge which puts you in charge of a lot of spinning plates on the end of sticks. You have to keep them all spinning or there are disasterous results.

If you've seen Micro-Painter, you ain't seen nothing yet! **PAINT!** is the ultimate painting utility. You can change the width of the brush, the speed, the shape, the colour. You can even paint with multi-coloured paint and change to tartans, checks, stripes etc. Zoom in on two magnifications and paint on pre-drawn pictures. This comes with a magnificent book on history of art, computer art, modern art and programming notes. Now the bad news - its on 48K disk but a 16K cassette is rumoured for the New Year.

Back to games, **BEACHES OF NORMANDY** is a new war game on cassette and disk (32K). It features scrolling screen and the full scenario of the Normandy landing. If you liked Eastern front you'll love this. **ESCAPE FROM TRAAM** and **CURSE OF CRAWLEY MANOR** are just what you 16K cassette owners have been waiting for - two new Adventures in 16K! You can now join the Adventure lovers and solve these two intriguing mysteries from Adventure International. An excellent introduction to adventuring.

On the Utilities side is **DISKEY** - a utility to 'unlock' your disks. You can examine, change or search any disk you want. It will copy, boot and change files to your specification. I use it all the time to keep my disk library in order and look at new programs. It requires 32K. **FASTCHIP** will speed up your Basic programs! This chip is easily installed and replaces the floating point chip in the O.S. and remains completely compatible with the Atari O.S. It speeds up the floating point routines by 3.5 times and indirectly speeds up your Basic too. This will be available before Christmas. **PERCOM** DISK DRIVES are now available at only £375. These are the latest single density drives and are **COMPLETELY** reliable. There is also a switchable Double Density/ Single Density Drive at £475 for those who want this extra facility. Finally, slightly cheaper!, are **WICO COMMAND CONTROL** joysticks guaranteed for one year. Once tried, you will never be able to go back to your plastic poles! They really are much better.

cont......

I've probably ruined your bank balance already, so I'll stop here but will just mention that there will be another 20 titles available before Christmas!

I'll try and keep up a regular column so write in and tell me what you want to read about. I am off to LAS VEGAS in January so there should be lots of exciting things to tell you about. Until then, keep racking up those bonus points!

SOUNDS INTERESTING...

```
5 REM ** PHASE SHIFT **
6 REM
10 FOR J=198 TO 200
20 SOUND 0,J,10,10
30 SOUND 1,J+1,10,10
40 SOUND 2,J+2,10,10
60 SOUND 3,J+3,10,10
65 IF PEEK(764)<>255 THEN FOR I=10 TO PE
EK(764):SOUND 3,I,10,14:NEXT I:POKE 764,
255
70 NEXT J:GOTO 5
80 REM
90 REM ** TRY HITTING ANY KEY **
91 REM ** TRY WITH SHIFT OR CTRL **
```


VULTURES cont.

```
4055 REM ** SOUNDS **
4100 RESTORE 4120:FOR I=1665 TO 1766:REA
D A.POKE I,A:NEXT I
4120 DATA 60,170,3,54,170,3,48,170,3,45,
170,3,40,170,3,36,170,3,0,0,0
4132 DATA 10,204,3,11,204,3,10,204,3,9,2
04,3,8,204,3,7,204,3,0,0,0
4142 DATA 20,143,1,80,143,3,90,140,6,95,
137,20,100,134,30,0,0,0
4144 DATA 13,12,20,16,143,30,12,8,40,16,
132,60,23,130,70,0,0,0
4146 DATA 40,174,20,50,172,20,60,170,20,
70,168,20,80,166,20,90,164,20,105,162,20
,0,0.0
4200 REM ** IMAGES **
4210 DIM V0$(4):RESTORE 4220:FOR I=1 TO
4:READ A:V0$(I)=CHR$(A):NEXT I
4215 V0=ADR(V0$):POKE IMGPT+1,INT(V0/256
):POKE IMGPT,V0-256*PEEK(IMGPT+1)
4220 DATA 36,90,153,0
4230 DIM V1$(5):RESTORE 4240:FOR I=1 TO
5:READ A:V1$(I)=CHR$(A):NEXT I
4235 V1=ADR(V1$):POKE IMGPT+3,INT(V1/256
):POKE IMGPT+2,V1-256*PEEK(IMGPT+3)
4240 DATA 66,165,24,24,0
4250 DIM V2$(5):RESTORE 4260:FOR I=1 TO
5:READ A:V2$(I)=CHR$(A):NEXT I
4255 V2=ADR(V2$):POKE IMGPT+5,INT(V2/256
):POKE IMGPT+4,V2-256*PEEK(IMGPT+5)
4260 DATA 195,36,24,24,0
4270 DIM V3$(6):RESTORE 4280:FOR I=1 TO
6:READ A:V3$(I)=CHR$(A):NEXT I
4275 V3=ADR(V3$):POKE IMGPT+7,INT(V3/256
):POKE IMGPT+6,V3-256*PEEK(IMGPT+7)
4280 DATA 129,66,36,24,24,0
4290 DIM V4$(6):RESTORE 4296:FOR I=1 TO
6:READ A:V4$(I)=CHR$(A):NEXT I
4292 V4=ADR(V4$):POKE IMGPT+9,INT(V4/256
):POKE IMGPT+8,V4-256*PEEK(IMGPT+9)
4296 DATA 255,255,255,255,255,0
4300 RETURN
4999 REM ** CHANGE DISPLAY LIST **
5000 DL=PEEK(560)+256*PEEK(561)
5010 POKE DL+3,70:POKE DL+6,6:FOR I=DL+7
 TO DL+28:POKE I,4:NEXT I:RETURN
6000 GRAPHICS 0:POKE 752,1:POSITION 8,1:
? "***  VULTURES III  ***"
6010 POSITION 5,3:? "The vultures are la
nding and":? "removing protective layers
 above"
6020 ? "you!  There are three layers and
 ":? "every time three vultures land":?
"one layer will disappear.":?
6030 ? "   You can stop the birds with":
? "a removal device controlled by":? "jo
ystick 0.  You get ten times"
6040 ? "the difficulty for each bird you
":? "stop. When you have removed a"
6050 ? "flock, the difficulty will go up
.":? :? "If you get hit by lightning you
r"
6060 ? "score will decrease by a hundred
":? "times the difficulty.":? :? "Just a
 sec..."
6090 RETURN
```

Atari Attracts

Phil Griffin

One of the many excellent features included in the ATARI Computers is the automatic screen protection systems called the "ATTRACT MODE". This system initiates a continuous rotation of colours on the screen as protection against "burn through" which may occur when a colour is displayed for too long without change. The computer monitors the use of the keyboard and will automatically enter the "ATTRACT MODE" if no keys have been depressed in the previous 9 minutes (9.01 to be precise). As soon as the keyboard is used, the "ATTRACT MODE" is disabled and the original screen colours return

You may have found that some games, which use only paddles or joysticks, enter into the "ATTRACT MODE" automatically after 9 minutes use. With a little bit of "peeking" and "pokeing" you can discover what causes the "ATTRACT MODE" to begin and, hopefully, how to temporarily disable it while you play your game.

The first thing you need to know is that the memory location which governs whether the "ATTRACT MODE" will be activated or not is location 77. By "peeking" into this location, you can see what is happening during the 9 minutes before the system comes into operation. The following short program should do the trick.

```
10 PRINT PEEK (77): GOTO 10
```

This program forms an endless loop which will repeatedly print the contents of location 77. On running, you will see that the contents of this location gradually increase in steps of 1 from 0. If you sat and watched for long enough, you would eventually see something strange happen to the sequence of numbers. To speed things up a little you can add an extra line to the program and run it again to watch the results.

```
5 POKE 77, 125
```

This line inserts a value of 125 into location 77 and on running you will see that the values displayed start at 125 and not 0 as previously. This value will gradually increase until 127 is displayed. The next number shown will be 254 and at this point the "ATTRACT MODE" will be activated.

You can see from this that if location 77 contains a value of 127 or less, then the "ATTRACT MODE" will remain inoperative. The ideal situation from a game - playing point of view would be to place a 0 in this location as often as possible or at least every 9 minutes. This can be done by including an instruction POKE 77, 0 in a frequently used part of the program (e.g a "movement" or "fire" routine). This will ensure that the attract mode remains inoperative during the course of the game.

As a matter of interest, this is precisely what happens when a key is depressed. If you run the program again and then press a key you will see that the value shown will immediately change to 0 and gradually increase as before. Any subsequent pressing of keys will have the same effect.

If you want to use the "ATTRACT MODE" during one of your own programs this is easily done by issuing the instruction POKE 77,254. The system can then be disabled at the appropriate point by a POKE 77, 0 instruction.

Software

DE-LUXE INVADERS

ROKLAN 16K DISK £23.95

1/2 PLAYERS 16K ROM £28.99

We all know about Space Invaders so what's new about De-Luxe Invaders? Well, not much really. There are one or two nice touches, which don't add much to the game but do improve the visual presentation. Once you've seen them a few times however, it's back to shoot them Invaders again. Whether it is more difficult than ordinary Invaders, I don't know-depends how good you are at saving the galaxy. If you buy this as your first Invaders you won't be disappointed but if you are hoping to move on to something better following ordinary Space Invaders, think carefully - it is not vastly different. The sound by the way is not what it could be and the opening sequences are agonisingly slow.

The concept of Space Invaders is great but you can't really improve it much. The Atari VCS version is probably as good as any.

CLOWNS & BALLOONS

DATASOFT 16K CASS/DISK

1/2 PLAYERS £21.80

When I first loaded the program, I spent at least five minutes just watching the sample game, admiring the graphics and sound.

The game consists of catching a clown who jumps from the side of the big top on to a trampoline and then bouncing him up and down to burst the balloons at the top. Make sure you catch him on the way down! A monkey watches the proceedings impassively from a high wire.

Playing required a lot of perserverance to get used to the speed of movement of the joystick. In fact I was beginning to get bored before I got good enough to burst the first set of balloons but clear them I did to be rewarded by more fancy graphics and nearly a nasty surprise! I wonder what happens when you clear the second set?

My young children (5 and 7) have mixed feelings about this game. They like to watch others play but find the joystick usage too difficult.

In conclusion - not a game I could get addicted to but the absolutely superb graphics make it well worth buying to impress family and friends with the Atari capabilities.

BAJA BUGGIES

GAMESTAR 16K CASS/DISK

1 PLAYER £19.95

Drive across the California desert under a blazing sun. You are right at the back of the grid with eighty buggies ahead of you ! Put your foot on the floor and get past them buggies - watch you don't hit them too much though or go off the road there are no breakdown trucks out here.

The concept of a driving game is not new but what makes Baja Buggies special is the unique 3-D perspective as you drive towards the distant mountains. When you turn a corner, you really do turn-the mountains and sky scroll across and you feel as if you are really in the car. The game is for one player only and has a choice of three courses with two skill levels. It is well worth the money-after all where in England can you race across the desert under the blazing sun!

Software

CHOPLIFTER

BRODERBRUND 48K DISK

I PLAYER £25.50

I first saw Choplifter on the Atari stand at the Personal Computer World show where Atari were using it to show off the machine's capabilities. The biggest crowd was watching this game and rightly so - it is superb.

The idea is to fly your helicopter and rescue hostages whilst fighting off pursuing jet fighters and bombing tanks which are trying to kill you and the hostages. Once you find the building where the hostages are, you blast it open and they come running! Then it's land your chopper and get as many aboard as you can before the enemy attacks, some will get scared and run off if the enemy gets too close and many will die if you are not quick enough. Watch you don't kill your own people, it's easy to do if you don't watch where you fire. The simulation of the helicopter flight as your chopper dodges and weaves is quite surperb and the reaction of the hostages is most realistic. The whole display is in Graphics 8 and makes very effective use of scrolling and Atari's other unbeatable qualities.

Shame it is only available on Disk, but if you have a Disk Drive, go out and buy this. Or, how about going out and buying a Disk Drive!

FROGGER

ON-LINE SYSTEMS 16K CASS. 32K DISK

I PLAYER £23.95

All you arcade freaks, will have been waiting for Frogger to arrive and will need only a short review. It was worth the wait - go and buy it!

For those of you who don't know what the fuss is about, get a look at this game which is simple in concept but fascinating to play. You have to get your frogs into the bank at the top of the screen to earn bonus points. Quite simple eh? Well, you've first got to cross a busy street then over a beach and across the river. If you don't get run over or drowned there are many other perils including alligators, otters and worms! And by the way there's a lady frog out there who needs your help. The game is quite challenging but not in the nerve - racking way of the space-challenge games, you can relax a little in this one.

Preppie and Pacific Coast Highway are similar games but Frogger was the first and on the Atari is probably the best. Frogger uses sound much more sparingly than Preppie and its much the better for it.

Banner by Phil Griffin

There have been several "Banner" Programs published but this is probably the simplest and is equally as effective. The symbols in lines 30,40 & 50 are inverse video "equals" signs and the speed can be altered by changing the value of N in line 10.

```
10 GRAPHICS 2+16:SETCOLOR 0,12,8:N=50
20 DIM A$(39)
30 POSITION 3,3:? #6;"=============="
40 POSITION 3,4:? #6;"=            ="
50 POSITION 3,5:? #6;"=============="
60 A$=" [12 SPCS]  WELCOME TO ATARI [11
SPCS] "
70 FOR D=1 TO 28:POSITION 4,4:? #6;A$(D,
D+11):FOR G=1 TO N:NEXT G:NEXT D:GOTO 70
```

First Steps

First steps will be a column of hints and tips to help you get started with your Atari. It will not teach you how to write programs but will try and give answers to the many little problems you face when first beginning. Write in with the Problems you experienced when you first had your Atari and tell us how you solved them.

Mike Reynolds-Jones writes

One of the first things to do, and a good way to learn is to type in program listings from the magazines. Computer and Video Games, Personal Computing Today and Micro Computer Printout (as well as Page 6! -Ed) are English Magazines that carry Atari listings whilst Compute!, Antic and Analog are the best American Magazines. (Drop Page 6 a line if you can't find these in your local shop). This is how I started but I soon found that the information available was not very clear in certain areas, for example, lines too long to fit memory, clearing the screen, printing of graphics symbols, finding errors, all presented problems.

Firstly, when typing listings try POKE 82, 0 without entering a line number. This will set the left margin from its normal position of 2 to zero which will give you six extra spaces in each logical line. Most listings are printed this way so you will be able to see if your typing is correct as the screen display will line up exactly with the listing. If you press SYSTEM RESET at any time you will have to re-POKE.

Printers cannot print graphic or control characters so check the write up accompanying the listing very carefully. In many listings you will see a bracket in inverted commas, "}" which represents the CLEAR SCREEN Command "↰" obtained by pressing the ESC Key, then CTRL and CLEAR together. The "bent arrow" should then appear. Check your Basic Reference Manual - Preface vii and Appendix F1 for further information.

It is well worth buying additional books to go with your manual. Several good publications are available but by far the best is 'Your Atari Computer - a guide to ATARI 400/800 personal computers' by Lon Poole, Martin McNiff and Steven Cook. Published by Osborne McGraw - Hill at around £10.00, this is the Atari 'Bible' and Contains everything you may need at every level of experience. There are 11 chapters and 453 pages covering Basic, Advanced Basic, Disk Drives, Printers, Tape Recorder, Graphics, Sound etc., with a large Appendix covering PEEK and POKE, ERROR Messages, Codes, Characters and Key strokes. This book is invaluable - it will remain your constant reference guide.

CYLINDERS ...

```
5 REM **      CYLINDERS      **
6 REM **  by Phil Griffin  **
10 GRAPHICS 9:SETCOLOR 4,1,0:Y=8
15 X=0:Y1=180
20 A=1:B=15:C=1:GOSUB 100
25 A=15:B=1:C=-1:GOSUB 100:A=10
30 FOR Y=18 TO 58 STEP 10
35 Y1=Y1-10:GOSUB 100:NEXT Y
40 FOR K=1 TO 3:FOR Z=0 TO 3
45 SETCOLOR 4,Z,0
50 FOR T=1 TO 1000:NEXT T
55 NEXT Z:NEXT K:GOTO 10
100 FOR K=A TO B STEP C
110 K1=K:IF K>12 THEN K1=12
120 COLOR 15-K:PLOT X,Y-2-K1/3
130 DRAWTO X,Y+K1/3:COLOR K
140 PLOT X,Y+1+K1/3
150 DRAWTO X,Y1+K1/3:X=X+1
160 NEXT K:RETURN
```

Club Call

CLUB CALL will feature news from BUG. As the magazine gets bigger we are happy to set aside pages for news of other user groups but in order to get a bigger magazine we need a bigger circulation so it is up to Club Secretaries and members everywhere to subscribe and contribute.

BUG is the Birmingham User Group - an independent Atari Computer Club and at present meets on the 2nd & 4th Thursday of the month at the Matador Public House in the Bull Ring, Birmingham City Centre. There are presently around 100 members and we are still growing! Our meetings so far have been very well attended and we will soon settle down to a regular format allowing everybody to join in activities which suit them. Probably various special - interest groups will be founded within the Club and it will be up to them to write for this column.

At present it is too early in our development to bring specific news so we would like to hear from other User Groups in the hope that our members will be able to contact other users and bring news from afar as well as from within.

Club member Andrew Jones has written a superb program "advertising" the Club and its Newsletter, but the program is unfortunately too long to print. Andrew doesn't even own an Atari - he borrowed one and wrote his program inside two weeks! Try and get a look at it, it's quite a superb piece of work. I have a feeling that Andrew is going to become one of the Club's top programmers. Anyone like to buy him a machine?

As far as the U.K. goes I have tried to contact various other User groups but have met with an alarming lack of enthusiasm! I am sure that there are many other Atari users around who would like to join BUG or subscribe to PAGE 6. Our members and our magazine welcome contact with other groups, so - get in contact!

Atari say that there are some 30 user groups in the UK! They are supposed to be circulating a list but if it arrives with the same regularity as the Atari Connection we will never get in touch with each other! Start writing to PAGE 6 right away.

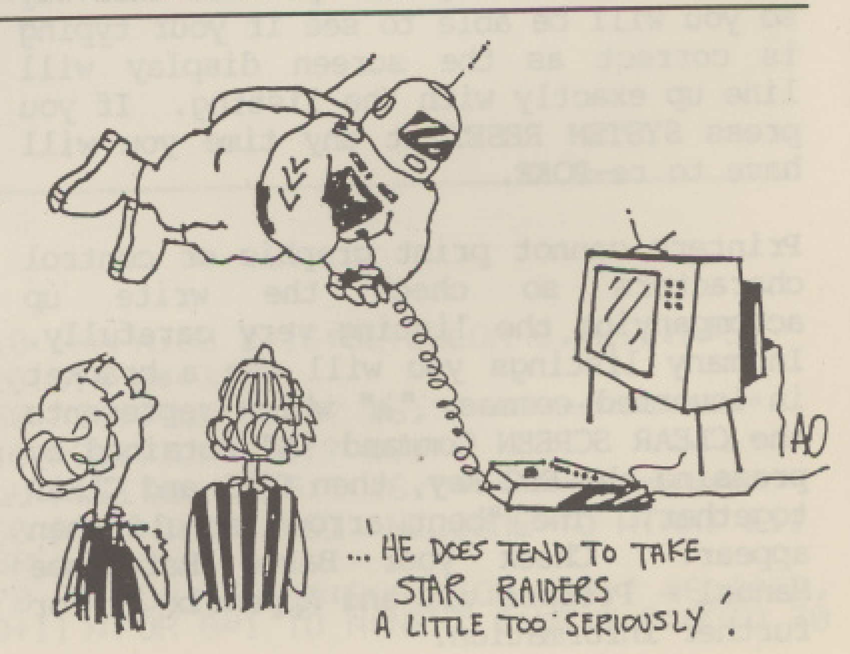
ACE of Oregon has already been mentioned elswhere in this issue but deserve another mention as their Newsletter Editor, Mike Dunn was the first to respond to this Editor's plea for help in starting off PAGE 6. The folks in America seem to be much more into helping each other out and I hope that Mike's quick response will spark off the same sort of enthusiam in BUG & elswhere in England.

ACE welcome overseas members and you can join by sending an International Money Order for $20.00 to Atari Computer Enthusiasts, 3662, Vine Maple Dr. Eugene Oregon, OR97401, USA. For your membership you will receive by Airmail about 10 issues of ACE Newsletter per year and will probably make many new friends in the States.

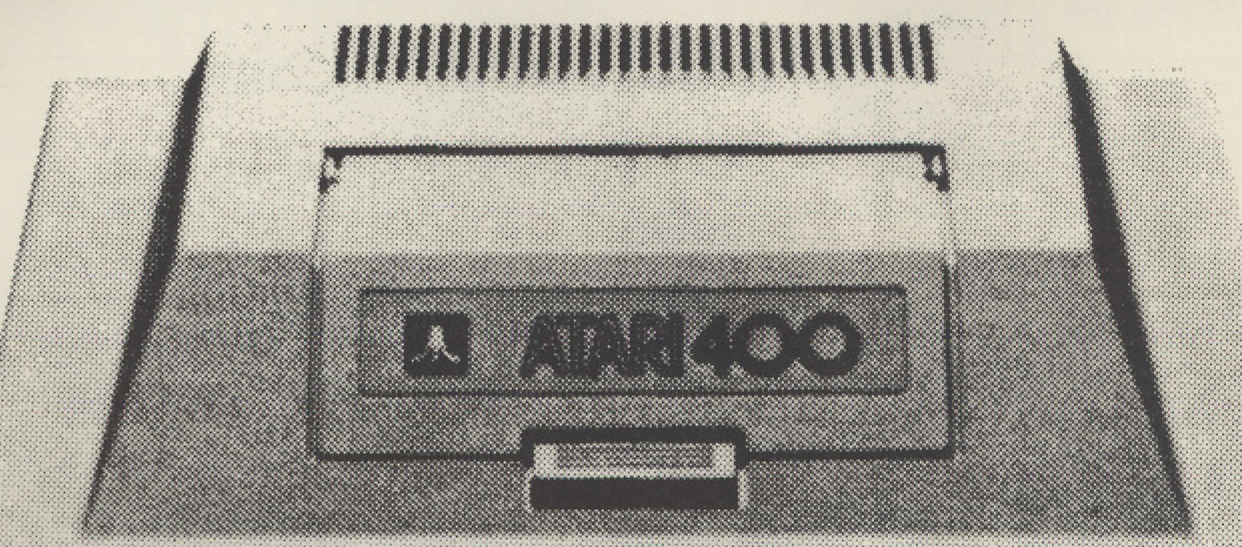
Try this .....

Type GRAPHICS 3 in Direct Mode then press RETURN. Press the TAB key about 25 times then press RETURN. Now try hitting various different keys.

Quite strange isn't it? I know what it does - can somebody tell me why?



SOFTCELL LTD plays Santa Claus this year to Atari 400* owners



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